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Pelvic Inflammations; or, Cellulitis *versus* Peritonitis.

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PELVIC INFLAMMATIONS; OR CELLULITIS *VERSUS* PERITONITIS.

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WHAT is pelvic inflammation? Is it a cellulitis, a pelvic peritonitis, or do we have the two combined? And under what circumstances do we find phlebitis and lymphangitis accompanying these conditions?

The term cellulitis, in this country, has come, by almost common consent, to signify a pelvic inflammation without reference to the special form, but its origin is generally supposed to have been in the connective tissue. Yet we have all recognized in practice different conditions, when, as exceptions to the rule, it seemed evident that the origin could not have been confined to the cellular tissue. So close, in some parts of the pelvis, is the relation between the connective tissue and the peritoneum covering it, that it seems impossible for an inflammation to exist to any extent in one, without involving the adjacent structure.

Below the dip of the peritoneum; above the floor of the pelvis; between the rectum and vagina behind; in front of the uterus, bladder, and ureters, as well as about the urethra, a pure cellulitis of considerable extent could exist without involving the peritoneum. Inflammation of the connective tissue in these localities is generally accompanied by phlebitis, and is a frequent consequence of the pressure made during childbirth. But it is a matter of common observation, that this form of pelvic inflammation tends rapidly to resolution, and the tissues soon regain a healthy state if septic poisoning do not take place.

With the introduction from any source of septic matter —as after the reception of an injury due to childbirth, or after any surgical procedure—the lymphatics become inflamed and the peritoneum is rapidly involved. The opposing inflamed peritoneal surfaces quickly adhere throughout, or partially so, as an effort of Nature to limit the extent of disease, and thus is shut in the product of the inflammation, which may remain encysted for an indefinite period. Then, by traction, or by direct pressure, the circulation in the blood-vessels becomes more or less obstructed, and the action of the absorbents is in like manner greatly impeded or arrested. The consequence is, that a condition finally exists which remains long after the more acute symptoms have subsided, and is one not prone to change nor amenable to treatment.

There has been a tendency shown in recent discussions on this subject to undervalue the importance of apparently limited pelvic inflammations. My own conviction, and one based on a large experience, is, that the more circumscribed a pelvic inflammation seems to be, provided it is not a pure cellulitis, the more serious will be the consequences if its existence be practically ignored.

A general pelvic inflammation will always command the needed respect from the most careless observer, but an apparently limited one is to be the more feared, from the fact that it is almost always situated in the peritoneum, and is generally the remains of a more extended inflammation.

The pelvic vessels are the last in sequence of repair to recover their tone, and even after a limited inflammation but a slight provocation is required to produce a fresh attack, the results of which may be more serious than the previous condition.

It has been held that, as a rule, little evidence of previous attacks of cellulitis can be found when operating for the removal of diseased Fallopian tubes, and my own experience has confirmed the accuracy of the observation. Yet it has cost me much thought to explain the existing condition; for the evidence of touch has seemed so conclusive, that the

pathological change, as detected from the vagina, could only be an enlargement in one or both broad ligaments. At as low a plane in the pelvis as such a mass would occupy, it would seem, in the absence of other proof, impossible to feel an enlarged Fallopian tube. In fact, the tube could not be reached from the vagina with the finger, so long as it remained *in situ*, with the same relation to the vaginal wall which it occupies in health.

Exception has been taken, and justly, to the term "thickening of the broad ligament." This is one I have long used to express a certain amount of fullness felt on the side of the uterus, and which seemed to be situated between the folds of the broad ligament. This fullness is usually associated with a lateral version, by which the neck of the uterus is drawn to the more diseased side of the vagina; a condition which would seem, in the absence of any knowledge to the contrary, to be a natural consequence of inflammatory shortening of the broad ligament.

During the past winter, Professor Polk kindly invited me to witness an operation, in his service at Bellevue Hospital, for the removal of a diseased tube. The patient had suffered from a double laceration of the cervix uteri, and I had, at a previous examination, expressed the opinion that the subsequent condition was one of thickening and shortening of the left broad ligament from an old cellulitis. At the operation, to my surprise, no broad ligament was found, and the enlarged tube lay directly against the side of the vagina. The relative position, or line, with the fundus of the uterus and the ovary remained unchanged, and yet the fingers of the operator, as they grasped the tube, could be distinctly felt from the vagina, and in contact with its walls. This was so marked an instance, that the explanation presented itself to me as soon as I was able to give the matter due thought. I recalled the fable of the two knights meeting at a cross-road, where a shield was suspended, which was of gold on one side, and of silver on the other. They disputed as to the material of which it was made. Each was

right from his own stand-point, and all difficulty could have been avoided if either had looked on the other side. I mention this fable as applicable to the recent discussions on the relative importance of cellulitis and pelvic peritonitis as factors in the diseases of women.

The question has been raised as to the existence of pelvic cellulitis in these cases, since its products found after death are so few, in comparison with those recognized as connected with inflammation of the peritoneum.

Let us see if it is possible to offer an explanation.

An increasing capacity of the vagina and rectum is one of the first indications we are able to recognize, proving that a cellulitis is rapidly clearing up. This is due to the shrinking away, as if by absorption, of the connective tissue, which has been inflamed, and from lateral traction the walls of these passages are thus separated. If the inflammation stops short of a pelvic abscess, and after it has entirely subsided, nothing can be detected by the finger in the vagina or rectum but a few attenuated bands, running in different directions, and these also disappear in time. By degrees the surrounding connective tissue, which had not been involved, is gradually drawn together, by its own elasticity, to fill the space which would otherwise remain unoccupied. The inflammation having been located below the dip of the peritoneum, and confined thus to the cellular tissue, nothing remains finally to mark the site, of even an extensive inflammation, but a small dense scar or line. After this re-distribution of the cellular tissue, the vagina or rectum slowly returns to its former shape and size, as soon as the natural elasticity of the pelvic connective tissue can be again uniformly exercised.

On the other hand, when an extensive inflammation has existed in the connective tissue between the folds of the broad ligament, it must necessarily involve the peritoneum covering it. In time this connective tissue also disappears, as a result of the inflammatory action, but it can not be replaced, in consequence of its isolated position in relation to the cellular tissue in the other portions of the pelvis. As

a result of inflammation of the peritoneum covering this tissue, adhesion of opposing surfaces occurs, and by the traction thus exerted the broad ligament is flattened out, so that Douglass's *cul-de-sac* disappears on that side. The effect of this change is that the vaginal wall, in the neighborhood of the seat of the inflammation, must be raised up and ballooned out, as I have already stated. The same traction would also draw the tube somewhat downward, until it and the side of the vagina would lie in contact. This, then, is the condition found by the surgeon when he operates for the removal of a diseased Fallopian tube.

I feel justified in the belief that in all of these cases there has existed, at the beginning, an extensive inflammation of the connective tissue. In addition, I am disposed to think that the inflammation of the tube is secondary to the cellulitis in every instance, unless the primary inflammation originated from gonorrheal poisoning.

As the connective tissue can not be again supplied, the broad ligament never regains its former length or shape; consequently in these cases the lateral version of the uterus remains a permanent deformity, or, if both ligaments were involved, an intractable form of retroversion is the consequence.

If my observation is correct, it would prove that connective tissue, without reference to its situation in the body, never regains its integrity after having been once inflamed. According to the degree and extent of the inflammation must the tissues involved be absorbed or break down into an abscess before the parts can be restored to health. If the surrounding connective tissue can supply the loss, the part will gradually return to its former shape, and the injury will in time be an unappreciable one. On the other hand, if the inflammation has been more extended, so that the loss can not be replaced, or if the tissues break down into an abscess, Nature can only repair the injury by adhesive inflammation of all the parts involved. We then have, according to the extent of injury, either a simple pit-like depression, or a de-

formity due to traction, as the tissues shrink together. Under the arch of the pubis, where we can have the simplest form of cellulitis, pressure during childbirth, or an injury from any other cause, exciting a circumscribed inflammation, will produce this simple depression or pit, as there connective tissue is limited in extent. After more extended injury, in other parts of the body, we are all familiar with the deformity due to traction. When cicatricial traction is thus exerted after a surface has healed, as it is termed, by granulation, this traction is due not so much to the presence of the scar tissue, as to the absence of counter-traction from the surrounding connective tissue which was destroyed before the scar was formed.

Dr. Henry C. Coe, of New York, at a recent meeting of the Alumni Association of the Woman's Hospital, read a paper on *The Exaggerated Importance of Minor Pelvic Inflammations*, and this was published in the *New York Medical Journal*, May 15, 1886. The results are given of a number of post-mortem examinations, in all of which, I believe, some form of pelvic inflammation had existed. His report is a valuable contribution from a pathological standpoint, but he goes too far in assuming that cellulitis had not previously existed to the extent claimed by others. Moreover, his deductions as to the value of local treatment in such cases are not in keeping with the experience of many other members of the profession. But I feel that we are indebted to him for these researches, as his paper was the first to draw attention to the subject, and it will be the means, I hope, of our gaining eventually a more accurate knowledge of the true pathology of pelvic inflammations.

In the past, when I have used the term "thickening in the broad ligament," I have not supposed that there existed between the folds of the broad ligament any deposit of lymph as a product of local inflammation; for I have long known the fact that the blood-vessels are not, as a rule, destroyed by cellulitis, but in time, from long-continued obstruction to the circulation, and from a want afterward of

the proper support, which the connective tissue can alone give, the veins become greatly enlarged. They thus lose all shape, and are often but mere receptacles, when the proper support and pressure to their walls ceases to be supplied through the surrounding fascia and connective tissue of the pelvis.

I have already described elsewhere this condition of the blood-vessels, and wherever I have detected evidence of an old cellulitis, with this so-termed "thickening of the broad ligament," I have supposed that the enlargement was due to the dilated state of these veins. I have also long since learned from experience that the condition was one very easily roused to active inflammation, as a phlebitis, from septic poisoning consequent upon any surgical interference or injury.

Unless these enlarged vessels were injected before the post-mortem examination, they might be easily overlooked, as a large portion of their contents would be forced on, at the time of death, into the receptacles of venous blood throughout the portal system, spleen, and lungs.

The same result would also take place in lessening the bulk of the connective tissue even in health, for it must occupy necessarily far more space in the pelvis while the circulation was being maintained than it would after the blood-vessels had been emptied by death.

I have thus, as briefly as possible, attempted to reconcile opposing views. By looking on both sides of the shield, as it were, the condition found by the surgeon has been explained, and the post-mortem appearances have also been accounted for.

It is still a mooted question as to the manner in which the tubes become diseased, when gonorrhea has had no part in the origin of the inflammation.

When a peritonitis has been caused from exposure to cold, for instance, the inflammation could readily extend to the lining membrane of the tubes, and the pelvic cellular tissue may at no time become extensively involved.

But with septic poisoning supervening, as upon a laceration of the cervix, or after some surgical injury, I believe the connective tissue, veins, and lymphatics, in the neighborhood of the folds of the broad ligaments, become first involved. The inflammation of the peritoneum is then secondary, and does not reach the tubes until a much later stage. It is, however, claimed that under these circumstances the inflammation advances along the uterine canal to the tubes, and that any cellulitis which might occur would be of little moment. But there is not the slightest evidence in proof of this view, nor is it the probable course, unless the advancing inflammation has been produced by gonorrhea or its consequences.

In case of a recent laceration of the cervix, it would be difficult to prove or disprove anything as to the route by which the inflammation may have extended. The most rational supposition, however, would be that the poison was transmitted directly through the lymphatics situated in the connective tissue, which was involved in the common injury. But from a practical stand-point it is almost a loss of time to discuss, at any great length, the question as to the special tissue involved.

If it could be proved that there was no such condition as cellulitis, and that all pelvic inflammations were confined exclusively to the peritoneum, nothing would be added thereby to our means of treatment. Nor would we gain the slightest immunity from the consequences were the existing inflammation ignored.

The prognosis should be a very guarded one as to the result to be gained by local treatment, where we can establish the fact that the female has suffered from gonorrhea, or if her husband had done so shortly before marriage; moreover, we should be equally as careful in all cases, and without reference to the cause, where the pelvic inflammation has been of long standing, and with the history of frequently recurring attacks. Under these circumstances, with a limited number of cases, no permanent benefit seems to result from local

treatment, and the operation for removing the tubes and ovaries has to be resorted to eventually.

But, fortunately, this is not the rule, for I have seen, at least among the well-to-do, some most unpromising cases recover entirely without the operation. But this result can be gained only after a long course of treatment, and one sometimes extending over a period of several years.

In our public hospitals we see a number of poor women suffering from some form of tubular disease, who have been admitted only after they have exhausted all their resources, with no other means of support for the future beyond their own efforts, and when they have lost apparently all recuperative power. Under these circumstances, and in the uncertainty of practical gain from local treatment, we may seriously consider the advisability of an operation, after having gained the consent of the patient by a truthful representation of her condition.

But I am convinced that the time has been reached when we should enter a protest, and that the profession at large should demand a recognition of some responsibility connected with the indiscriminate manner in which this operation is being done all over the country, and by any one. During the past spring, a young physician from one of the western cities stated at the Woman's Hospital that he was then on his way to England for the purpose of having "Mr. Tait teach him how to take out tubes." He seemed to feel that this was about the only knowledge necessary for treating the diseases of women, and he expected to devote himself to the practice as a specialty.

I am certain from my own knowledge that those who operate most in New York city have obtained, so far as saving life is concerned, as good results as have been claimed abroad. But if we could get at the true proportion of deaths after this operation, throughout the country, it would be found that the mortality has been a fearful one. Surely, for the good name of the profession, it should be recognized that it requires an expert to determine when this operation

should be done, and that even more experience still is required to perform it with safety and with benefit.

I believe that the operation for removal of the tubes and ovaries should only be done as a last resort, and only after every other means has failed.

In my public hospital experience the results of local treatment have not been satisfactory, in consequence of the want of proper food, sufficient sunlight, with fresh air, and other surroundings specially calculated to improve the general condition.

But in private hospital practice I have certainly succeeded in restoring the health of a number of women where the operation had been urged as a last resort, before they came under my care, and where, indeed, it would have been performed if they had been in other hands. It is true that I have signally failed in some instances, and, after having exhausted every means of local treatment at my command, I have only gained apparently an improvement in the general condition. Yet it is a remarkable fact, that where I have refused to operate, and these cases have passed into the hands of others for the purpose of having it done, a very large proportion have died, and I can recall scarcely a single instance where the result was entirely satisfactory. In these cases which have passed directly under my own observation, the average amount of benefit derived has certainly not been great enough to compensate for the average risk of life. On the other hand, I must state that some of the worst cases I have ever met with have been seen in consultation. For some of these I have not hesitated to agree to the operation, on account of certain existing circumstances, and, with a number, the result has seemed to justify its performance.

But I believe that the operation is practiced too often, even by those who have the smallest death rate, and I predict that five years will not pass before it will be necessary to offer an apology when its performance is suggested. The operation doubtless fills an important place in gynecological

surgery. But its usefulness must be more clearly defined, and its practice greatly restricted, or the good name of the profession will surely suffer in the future.